IN THE CLAIMS

Please make the following claim substitutions:

1. (Currently amended) A method for assigning codes in a CDMA wireless communication system, wherein said codes are spreading codes, and in which a plurality of wireless terminals communicate via a plurality of channels, said method comprising the steps of:

estimating propagation characteristics of said plurality of channels; and

assigning spreading codes to said plurality of wireless terminals based on said estimated propagation characteristics of said channels.

2. (Previously presented) The method of claim 1 wherein said step of assigning spreading codes comprises the steps of:

choosing a target wireless terminal; and

assigning a spreading code to said target wireless terminal.

3. (Currently amended) The method of claim 2 wherein said step of assigning a spreading code to a target wireless terminal comprises the step of:

performing a random code search to obtain an improved code for said target wireless terminal, wherein said improved code which is an improvement over a current code of said target wireless terminal.

4. (Currently amended) The method of claim 3 wherein said step of performing a random code search comprises the step of randomly searching available codes until an said improved code is found.

5. (Original) The method of claim 3 wherein said step of performing a random code search comprises the step of randomly searching a subset of available codes for the best code in said subset.

6. (Currently amended) The method of claim 3 further comprising the step of:

performing a gradient search of codes in the a signal space area surrounding said improved code.

1   7. (Original) The method of claim 3 further comprising the step of:

2   performing a gradient search of transmission delays for said improved

3   code.

1   8. (Currently amended) The method of claim 3 further comprising the steps of:

2   performing a gradient search of codes in ~~the~~ <u>a</u> signal space area

3   surrounding said improved code; and

4   performing a gradient search of transmission delays for said improved

5   code.

1   9. (Original) The method of claim 1 further comprising the steps of:

2   maintaining a processing set of said plurality of wireless terminals;

3   individually assigning codes to said wireless terminals in said processing

4   set; and

5   adding a wireless terminal to said processing set when said step of

6   individually assigning codes to said wireless terminals in said processing set has

7   converged and repeating said step of individually assigning codes.

1   10. (Original) The method of claim 1 further comprising the step of:

2   transmitting said codes to said plurality of wireless terminals.

1   11. (Currently amended) A method for assigning a ~~spreading~~ code to a wireless

2   terminal in a CDMA wireless communication system<u>, wherein said code is a</u>

3   <u>spreading code,</u> comprising the steps of:

4   estimating propagation characteristics of a communication channel of said

5   wireless terminal; and

6   assigning a spreading code to said wireless terminal based on said

7   estimated propagation characteristics of said communication channel.

1   12. (Previously presented) The method of claim 11 wherein said step of

2   assigning a spreading code further comprises the step of:

3   performing a random code search for an improved code relative to a

4   current code assigned to said wireless terminal.

1   13.   (Currently amended)   The method of claim 12 wherein said step of
2   performing a random code search comprises the step of:
3   searching available codes for ~~an~~ said improved code.

1   14. (Original) The method of claim 12 wherein said step of performing a random
2   code search comprises the step of:
3   searching a subset of available codes for the best code in said subset.

1   15. (Currently amended) The method of claim 12 further comprising the step of:
2   performing a gradient search of codes in ~~the~~ a signal space area
3   surrounding said improved code.

1   16. (Original) The method of claim 12 further comprising the step of:
2   performing a gradient search of transmission delays for said improved
3   code.

1   17.   (Currently amended)   The method of claim 12 further comprising the steps
2   of:
3   performing a gradient search of codes in ~~the~~ a signal space area
4   surrounding said improved code; and
5   performing a gradient search of transmission delays for said improved
6   code.

1   18. (Currently amended) A method for use in a CDMA wireless communication
2   system comprising the steps of:
3   receiving channel propagation characteristics of a plurality of wireless
4   channels;
5   wherein said channel propagation characteristics comprise the direction of
6   arrival of a path of signal transmission and the propagation delays experienced
7   by said signal transmission; and
8   assigning codes to a plurality of wireless terminals based on said received
9   channel propagation characteristics, wherein said codes are spreading codes.

1   19. (Currently amended) The method of claim 18 wherein said step of assigning

2   ~~spreading~~ codes comprises the steps of:

3   choosing a target wireless terminal; and

4   assigning ~~a~~ <u>said</u> spreading code to said target wireless terminal.

1   20. (Currently amended) The method of claim 19 wherein step of assigning ~~a~~

2   <u>said</u> spreading code to a target wireless terminal comprises the step of:

3   performing a random code search to obtain an improved code for said

4   target wireless terminal<u>, wherein said improved code</u> ~~which~~ is an improvement

5   over a current code of said target wireless terminal.

1   21. (Currently amended) The method of claim 20 wherein said step of

2   performing a random code search comprises the step of randomly searching

3   available codes until ~~an~~ <u>said</u> improved code is found.

1   22. (Original) The method of claim 20 wherein said step of performing a random

2   code search comprises the step of randomly searching a subset of available

3   codes for the best code in said subset.

1   23. (Currently amended) The method of claim 20 further comprising the step of:

2   performing a gradient search of codes in ~~the~~ <u>a</u> signal space area

3   surrounding said improved code.

1   24. (Original) The method of claim 20 further comprising the step of:

2   performing a gradient search of transmission delays for said improved

3   code.

1   25. (Currently amended) The method of claim 20 further comprising the steps

2   of:

3   performing a gradient search of codes in ~~the~~ <u>a</u> signal space area

4   surrounding said improved code; and

5   performing a gradient search of transmission delays for said improved

6   code.

1   26. (Original) The method of claim 18 further comprising the steps of:

2   maintaining a processing set of said plurality of wireless terminals;

3   individually assigning codes to said wireless terminals in said processing

4   set; and

5   adding a wireless terminal to said processing set when said step of

6   individually assigning codes to said wireless terminals in said processing set has

7   converged and repeating said step of individually assigning codes.

1   27. (Original) The method of claim 18 further comprising the step of:

2   transmitting said codes to said plurality of wireless terminals.

1   28. (Currently amended) Apparatus for communicating with a plurality of

2   wireless terminals via a plurality of channels, said apparatus comprising:

3   a channel estimator for determining channel propagation characteristics;

4   and

5   a code optimizer for assigning ~~spreading~~ codes to said plurality of wireless

6   terminals based on said channel propagation characteristics, <u>wherein said codes</u>

7   <u>are spreading codes</u>.

1   29. (Presently presented) The apparatus of claim 28 wherein said code

2   optimizer comprises:

3   a memory storing computer program instructions;

4   a processor for executing said stored computer program instructions;

5   said computer program instructions defining the steps of:

6   choosing a target wireless terminal; and

7   assigning a spreading code to said target wireless terminal.

1   30. (Currently amended) The apparatus of claim 29 wherein the computer

2   program instructions defining the step of assigning a spreading code to a target

3   wireless terminal further define the step of:

4   performing a random code search to obtain an improved code for said

5 target wireless terminal, wherein said improved code which is an improvement

6 over a current code of said target wireless terminal.

1   31. (Currently amended) The apparatus of claim 30 wherein said computer

2 program instructions defining the step of performing a random code search

3 further define the step of randomly searching available codes until an said

4 improved code is found.

1   32. (Original) The apparatus of claim 30 wherein said computer program

2 instructions defining the step of performing a random code search further define

3 the step of randomly searching a subset of available codes for the best code in

4 said subset.

1   33. (Currently amended) The apparatus of claim 30 wherein said computer

2 program instructions further define the step of:

3   performing a gradient search of codes in the a signal space area

4 surrounding said improved code.

1   34. (Original) The apparatus of claim 30 wherein said computer program

2 instructions further define the step of:

3   performing a gradient search of transmission delays for said improved

4 code.

1   35. (Currently amended) The apparatus of claim 30 wherein said computer

2 program instructions further define the steps of:

3   performing a gradient search of codes in the a signal space area

4 surrounding said improved code; and

5   performing a gradient search of transmission delays for said improved

6 code.

1   36. (Original) The apparatus of claim 28 wherein said computer program

2 instructions further define the steps of:

3   maintaining a processing set of said plurality of wireless terminals;

4   individually assigning codes to said wireless terminals in said processing

5 set; and

6   adding one of said plurality of wireless terminals to said processing set

7 when said step of individually assigning codes to said wireless terminals in said

8 processing set has converged and repeating said step of individually assigning

9 codes.

1   37.   (Original)   The apparatus of claim 28 wherein said computer program

2 instructions further define the step of:

3   transmitting said codes to said plurality of wireless terminals.

1   38.   (Currently amended)   Apparatus for communicating with a plurality of

2 wireless terminals via a plurality of channels, said apparatus comprising:

3   means for estimating channel propagation characteristics; and

4   means for assigning ~~spreading~~ codes to said plurality of wireless terminals

5 based on said estimated channel propagation characteristics, wherein said codes

6 are spreading codes.

1   39.   (Previously presented)   The apparatus of claim 38 wherein said means for

2 assigning codes comprises:

3   means for choosing a target wireless terminal; and

4   means for assigning a spreading code to said target wireless terminal.

1   40.   (Currently amended)   The apparatus of claim 39 wherein said means for

2 assigning a spreading code to a target wireless terminal comprises:

3   means for performing a random code search to obtain an improved code

4 for said target wireless terminal, wherein said improved code ~~which~~ is an

5 improvement over a current code of said target wireless terminal.

1   41.   (Currently amended)   The apparatus of claim 40 wherein said means for

2 performing a random code search comprises means for randomly searching

3 available codes until ~~an~~ said improved code is found.

42. (Original) The apparatus of claim 40 wherein said means for performing a random code search comprises means for randomly searching a subset of available codes for the best code in said subset.

43. (Currently amended) The apparatus of claim 40 further comprising:

means for performing a gradient search of codes in ~~the~~ a signal space area surrounding said improved code.

44. (Original) The apparatus of claim 40 further comprising:

means for performing a gradient search of transmission delays for said improved code.

45. (Currently amended) The apparatus of claim 40 further comprising:

means for performing a gradient search of codes in ~~the~~ a signal space area surrounding said improved code; and

means for performing a gradient search of transmission delays for said improved code.

46. (Original) The apparatus of claim 38 further comprising:

means for maintaining a processing set of said plurality of wireless terminals;

means for individually assigning codes to said wireless terminals in said processing set;

means for adding one of said plurality of wireless terminals to said processing set when said step of individually assigning codes to said wireless terminals in said processing set has converged and repeating said step of individually assigning codes.

47. (Original) The apparatus of claim 38 further comprising:

means for transmitting said codes to said plurality of wireless terminals.